

Change of sodium-hydrogen exchanger mRNA expression in lung of patients with pulmonary hypertension and its clinical significance. He, Hongbing; Zhang, Baoren; Zhu, Jialin.

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Abstract The Na⁺-H⁺-exchanger (NHE-1) mRNA expression in lung of patients with congenital heart disease and mechanism of pulmonary remodeling were studied. Twenty-two patients with congenital heart disease were divided into 2 groups: non-pulmonary-hypertension group (sPAP <3.99 kPa) and pulmonary hypertension group (sPAA ≥3.99 kPa). Patients with thymoma or esophageal carcinoma were used as control group. The lung biopsies were obtained from the middle lobe of the right during the operation. Northern blot was used to examine the NHE-1 mRNA expression. The media of muscular branches of the pulmonary artery was thickened in hypertension group. The NHE-1 mRNA expression level in congenital heart disease group was higher than that in control (P <0.01), and that in pulmonary hypertension group was higher than that in non-pulmonary-hypertension group (P <0.05). There was an upregulation of NHE-1 mRNA expression in the lung of patient with congenital heart disease, and change of NHE-1 mRNA expression was earlier than that of medial thickness and blood pressure elevation in pulmonary arterioles; and upregulation of NHE-1 mRNA expression may be one reason in pulmonary hypertension caused by the abnormal pulmonary hemodynamics.